



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/524,010

11/25/2005

Peter Flamang

9031-1001

7556

466

7590

06/25/2007

YOUNG & THOMPSON  
745 SOUTH 23RD STREET  
2ND FLOOR  
ARLINGTON, VA 22202

EXAMINER

CUEVAS, PEDRO J

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

06/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/524,010

Applicant(s)

FLAMANG ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-37 and 39-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-37 and 39-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on April 26, 2007. These drawings are acceptable.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 18-41 are not present. New ground(s) of rejection are presented.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-20, 27-29, 32-35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,608,397 B2 to Makino et al. in view of U.S. Patent No. 6,304,002 B1 to Dehlsen et al.

Makino et al. disclose the construction of a wind driven electrical power generating apparatus, comprising:

a multi-stage low speed gear module (134); and

a plurality of multi-stage high speed gear modules (136);

wherein said low speed gear module is operable simultaneously to transmit torque to each of said high speed gear modules (column 5, lines 43-60); and

whereby a rotor (2) is supported by at least one bearing which is integrated in a housing (25) of the low speed gear module.

However, it fails to disclose a plurality of electrical generators and control means for selecting the number of generators operable to generate electricity.

Dehlsen et al. disclose the construction of a distributed powertrain for high torque, low electric power generator, comprising a plurality of electrical generators (70) and control means for selecting the number of generators operable to generate electricity (column 4, lines 61-67), for the purpose of allowing continuous operation in the event of partial failure.

It would have been obvious to one skilled in the art at the time the invention was made to use the plurality of electrical generators and control means disclosed by Dehlsen et al. on the wind driven electrical power generating apparatus disclosed by Makino et al. for the purpose of allowing continuous operation in the event of partial failure.

5. With regards to Claim 27, Makino et al. discloses each high speed gear module housing providing support for bearings which rotatably support one or more rotatable components of that gear module (Figures 4A and 4B).

6. With regards to Claim 28, Makino et al. discloses at least one high speed gear module having an electrical generator (48) associated therewith.

7. With regards to Claim 29, Makino et al. discloses the or each said electrical generator receives input torque via only one high speed gear module (Figure 3).

8. With regards to Claim 32, Makino et al. discloses an intermediate stage gear module is provided between the low speed gear module and each high speed gear module.

9. With regards to Claim 33, Makino et al. discloses a spline connection provided between the low speed gear module and each high speed gear module (Figure 8).

Art Unit: 2834

10. With regards to Claim 35, Makino et al. discloses the low speed shaft is supported on one or more bearings, which also act as rotor bearings (Figure 5).

11. With regards to claim 39, Dehlsen et al. disclose powered rotor assembly coupled to a low speed input of the low speed gear module, and a nacelle support structure, wherein the low speed gear unit comprises a housing which transmits forces from the rotor assembly to the nacelle support structure.

12. Claims 21-26, 30 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,608,397 B2 to Makino et al. in view of U.S. Patent No. 6,304,002 B1 to Dehlsen et al. as applied to claims 18-20, 27-29, 32-35 and 39 above, further in view of U.S. Patent No. 4,565,929 A to Baskin et al.

Makino et al. in view of Dehlsen et al. disclose the construction of a wind driven electrical power generating apparatus as disclosed above.

However, it fails to disclose a housing adapted to transfer rotor forces and bending moments to a nacelle structure and integrated with the base plate of the nacelle of the wind turbine.

Baskin et al. teach the construction of a wind powered system for generating electricity comprising a housing (yaw bearing 20) adapted to transfer rotor forces and bending moments to a nacelle structure (16), and integrated with the base plate of the nacelle of the wind turbine for the purpose of providing a yaw control system.

It would have been obvious to one skilled in the art at the time the invention was made to use the yaw bearing disclosed by Baskin et al. on the wind driven electrical power generating

Art Unit: 2834

apparatus disclosed by Makino et al. in view of Dehlsen et al. for the purpose of providing a yaw control system.

It has also been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to integrate the housing and the base plate, since it has been held that forming in one piece an article, which has formerly been formed in two pieces and put together, involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893). The term “integral” is sufficiently broad to embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973).

13. With regards to Claims 23 and 25, Baskin et al. discloses wherein the housing is:

used to transmit rotor loads to a tower supporting the nacelle of the wind turbine;  
fixed to the wind turbine's structure via supports that form part of the housing and  
which are extended in a base plate that supports the gear unit and rotor, as well as the  
yaw bearing of the nacelle.

14. With regards to Claim 26, 30, 36, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the support housing selectively releasable and removable from the housing of the low speed gear unit, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Art Unit: 2834

15. With regards to Claim 31, Makino et al. discloses said generator comprising a shaft (22) rotatably coupled to the high speed gear module via a spline connection.

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pedro J. Cuevas  
June 11, 2007

  
DARREN SCHUBERG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800